Army Technical Architecture 4.0

Executive Summary

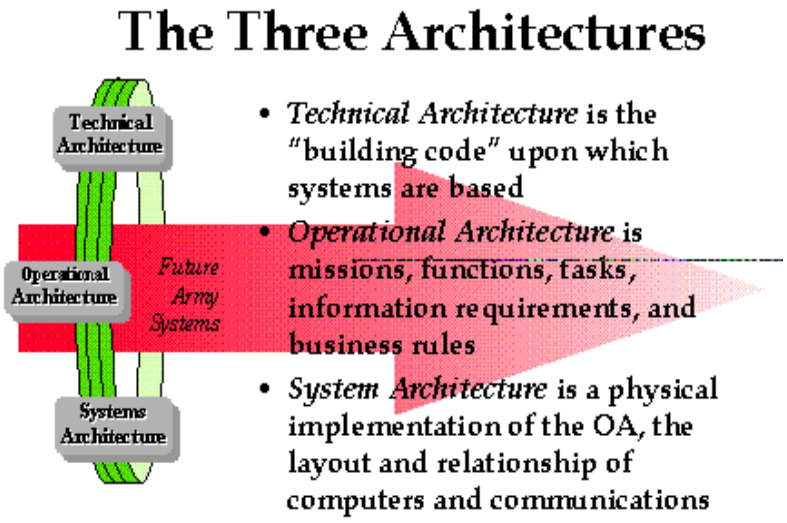
INTRODUCTION

One of the underlying tenets of information-age warfare is that "*shared situation awareness, coupled with the ability to conduct continuous operations, will allow information age armies to observe, decide, and act faster, more correctly and more precisely than their enemies.*"[1] This presupposes that information is reliable, timely, available, usable, and shared. The underlying information infrastructure must, therefore, facilitate rather than inhibit (e.g., stove-pipe) the flow of information between sustaining base agencies and strategic/tactical force elements and provide the flexibility to accommodate different missions and organizational structures.

In the absence of a common and enforced Technical Architecture (TA), most information and embedded systems have been developed with their own (sometimes unique and frequently closed) infrastructures resulting in various message sets, various information processing and information transport architectures. Interoperability has been problematic and expensive, accomplished through the development and maintenance of unique interfaces. As a result, the Services lack an integrated information architecture and continue to rely on "black-box" solutions.

A Technical Architecture is a set of "building codes". By itself it builds nothing. However, used in conjunction with the other Enterprise Architectures -- the Operational and Systems Architectures -- the adoption and enforcement of the TA will foster interoperability between systems, as well dramatically reduce cost, development time, and fielding time for improved systems.

[1] *War in the Information Age*, General Gordon R. Sullivan and Colonel James M. Dubik, June 1994.



SCOPE

The ATA applies to all systems that produce, use, or exchange information electronically. The ATA will be used by anyone involved in the management, development or acquisition of new or improved systems. Within the Army, the Vice Chief of Staff, Army and the Army Acquisition Executive have jointly made each Milestone Decision Authority (MDA), Major Army Command (MACOM), Program Executive Officer (PEO), Program or Product Manager (PM), Advanced Technology Demonstration (ATD) Manager, Advanced Concept and Technology Demonstration (ACTD) Manager, and Advanced Concept and Technology (ACT) II Manager responsible for compliance with this ATA. System developers will comply with the ATA in order to ensure that products meet interoperability, performance, and sustainment criteria. Combat developers will use the ATA in developing requirements and functional descriptions. Battle Labs will use the ATA to ensure that the fielding of their "good ideas" is not unduly delayed by the cost and time required for wholesale reengineering to meet interoperability standards. Compliance with ATA standards will be included as an evaluated requirement in all acquisitions.

BACKGROUND

The ATA was developed by collaboration among the Army Staff, Army Systems Engineering Office (ASEO), Army Science Board, MACOMs and PEOs/PMs. It supports not only the Army Enterprise Strategy, but has also been selected as the basis for development of a Joint Technical Architecture to support the Joint Warfighter Community. This version of the ATA is based on the DOD Technical Architecture Framework for Information Management (TAFIM Version 2.0), the DOD Directive 8320-series governing data standardization, and the Army's initiatives to streamline the acquisition process. It mandates the use of a DOD Common Operating Environment (COE) for software development, the use of specific network protocols and message formats for data transport, the use of the Defense Data Dictionary System (DDDS) for data management and the use

of IDEF for information modeling. It also establishes soldier-machine interface standards and delineates standards for information security. The ATA capitalizes on the substantial investment by U.S. industry in information technologies and will evolve through participation with DOD, Industry and International standards organizations to identify and reinforce emerging trends and standards that will beneficially impact the interoperability of Army systems. All non-commercial standards mandated in the ATA have met the DOD Commercial Standards Policy and are waived.

Our ultimate objective is to provide the Warfighter with a seamless flow of timely, accurate, accessible, and secure information that gives our forces a decisive edge.

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